

Exhibit 14.03

United States' Motion to Enter Consent Decree,
United States v. Alden Leeds, Inc. et al., Civil Action No. 22-7326 (D.N.J.)

EXHIBIT A-13

Appendix A to OxyChem's Comments in Opposition to Proposed Consent Decree,
United States v. Alden Leeds, Inc., et al., Civil Action No. 2:22-cv-07326 (D.N.J.)

14.0 PCBs AS UNINTENTIONAL PRODUCT CONTAMINANTS

Although most of the PCBs in use were produced by Monsanto as the primary product of a reaction process, other chemical reactions can produce PCBs as by-products, resulting in contamination of commercial chemicals. Similarly, contamination of existing material may result in PCB contamination of products made by recycling these materials. Recycled paper is known to be contaminated with PCBs at low levels, but a detailed study of this industry indicated that it would not be affected by the 50 ppm limit on PCB contamination.⁽¹⁾ Polychlorinated terphenyls have also been reported to be contaminated with PCBs formed as a side reaction during manufacturing,⁽²⁾ but the sole U.S. distributor of this material has reportedly assured its major customer that it would warrant that future shipments will contain less than 50 ppm PCB.⁽³⁾

The only chemicals known to be contaminated with PCBs in concentrations exceeding 50 ppm are certain phthalocyanine blue and green pigments and the diarylide yellow pigments.

14.1 Requirements of the Proposed Regulations

The regulations ban the continued manufacture of PCBs after December 31, 1978. This ban also applies to mixtures containing more than 50 ppm PCBs regardless of whether the PCBs were added intentionally or formed during manufacture as an unintentional by products.

14.2 Compliance Costs

Phthalocyanine Pigments

Phthalocyanine pigments are major sources of heat- and light-stable blue and green colors in the plastics and printing inks industries. In the manufacture of copper phthalocyanine blue pigment (phthalo blue), the

- (1) Versar Inc., Involvement of PCBs in the Pulp and Paper Industry, EPA 560/6-77-005, February 25, 1977.
- (2) Versar Inc., Assessment of the Environmental and Economic Impacts of the Ban on Imports of PCBs, EPA 560/6-77-007, February 22, 1977.
- (3) Personal communication, L.M. Argueso (M. Argueso and Co., Mamaroneck, N.Y.), August 30, 1977.

copper used in the reaction apparently catalyzes the dehydrochlorination of the trichlorobenzene (TCB) solvent used in the process to form varying amounts of trichloro and pentachloro biphenyl residue in the product. Further chlorination of phthalo blue to make phthalo green pigment results in the formation of PCBs residues in the green product. Domestic and foreign manufacturers of phthalo pigments, using the TCB solvent process, have tested these pigments for PCBs level. Results indicate that this process consistently produces pigments with PCBs residues in the 100-300 ppm range. One analysis from a domestic manufacturer reported concentrations as high as 1000-2000 ppm. Several U.S. companies manufacture the phthalo pigments from the basic raw materials, while the other U.S. companies marketing these pigments import foreign TCB-based crude pigments and purify them for sale in the United States. Under the proposed PCB ban regulations, all of these manufacturers are in effect producing a PCB mixture which could not be sold or distributed in commerce effective 30 days after promulgation of the draft regulations.

Discussions with the domestic phthalo pigment manufacturers have disclosed that only one manufacturer does not use the TCB solvent process (kerosene is used as the solvent in a proprietary process and the pigment produced has essentially zero PCBs). All other domestic and foreign manufacturers use TCB solvent, and are accordingly faced with major process revisions to comply with the proposed 50 ppm PCBs limit in their product.

The concentration of PCBs in the phthalocyanine blue and green pigments can reportedly be reduced to below 50 ppm by a change in the solvent used in the manufacturing process. Such a change will require modifications of the process and quality control procedures, and may cost \$100,000 for each of the five or so manufacturers and importers of the material. Since uncontaminated pigment is available from one U.S. manufacturer, there is sufficient price competition to prevent these increased costs from being passed along in higher product prices. The effect would therefore be a decrease in corporate profits.

Diarylide Yellow Pigments

Diarylide pigments are the major yellow pigments used in printing inks. These pigments are made by reactions of precursors which include dichlorobenzidine. A minor side reaction results in the deamination of the benzidine resulting in the formation of 3,3'dichlorobiphenyl. According to Don Morgan of the Dry Color Manufacturers Association,⁽¹⁾ most diarylide yellow pigments are contaminated with PCBs at concentrations of several hundred parts per million. Although a few batches of pigment have been found to contain less than 50 ppm PCBs, the industry is not yet able to control the manufacturing process to reliably achieve this low level of PCB contamination.

Sales of diarylide yellow pigment in 1976 were about 12.66 million pounds having a value in excess of \$52 million.⁽¹⁾ This pigment was contaminated with perhaps several thousand pounds of 3,3'dichlorobiphenyl, which is a relatively biodegradable isomer of PCB. If the proposed PCB ban regulations result in an effective ban on the manufacture of this yellow dye, most colored printing inks will have to be reformulated, resulting in some lost production while technical changes are made in the \$690 million/year ink industry and the \$43 billion per year graphic arts industry.

There is no technology available that can reliably reduce the concentration of PCBs in diarylide yellow pigments to below 50 ppm. If the ban on the manufacture of PCBs after December 31, 1978, results in an effective ban on the manufacture of this pigment, lost sales of this material will be about \$52 million per year. Alternative pigments are available, but their use results in higher ink costs as the alternative materials are less effective and/or more expensive. Increased costs due to the conversion to substitute materials may equal 20 percent to 50 percent of the value of the discontinued yellow pigments, or \$10 million to \$25 million per year. There should be no net employment effects as the production of substitute materials will offset the losses from the discontinuation of manufacture of the diarylide yellow. However, several hundred jobs may be affected at the impacted manufacturing facilities, and an unknown amount of production equipment would lose economic value.

(1) Telephone conversation, Don Morgan (Attorney for the Dry Color Manufacturers Association) with R. Westin (Versar), September 22, 1977.

14.3 Summary

Compliance Costs

Phthalocyanine Blue - Production changes	\$500,000 - 1978
Diarylide Yellow - Increased costs of	\$10 million to
substitute pigments	\$25 million per year

Employment Effects

Several hundred jobs would be affected if the manufacture of diarylide yellow pigments were banned. These would be offset by employment increases in the segments of the pigment industry supplying the substitute materials.

United States
Environmental Protection
Agency

Office of
Pesticide and Toxic Substances
Washington, DC 20460

Office of Pesticide and Toxic Substances



Microeconomic Impacts of the Proposed "PCB Ban Regulation"

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EPA 560/6-77-035

MICROECONOMIC IMPACTS OF THE PROPOSED
'PCB BAN REGULATIONS'

FINAL TASK REPORT

Submitted to:

U.S. Environmental Protection Agency
Office of Planning and Management
Washington, D.C.

Attention: Mr. Steven B. Malkenson
Project Officer

Contract No. 68-01-4771

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This document is available in limited quantities through the U.S. Environmental Protection Agency, Office of Toxic Substances (WH-794), 401 M Street, S.W., Washington, D.C. 20460.

This document will subsequently be available through the National Technical Information Service, Springfield, Virginia 22151.

This report has been reviewed by the Office of Planning and Management, U.S. Environmental Protection Agency, and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

G-PPG002823

PREFACE

This report was prepared by Versar Inc. for the Office of Planning and Management of the U. S. Environmental Protection Agency. The report summarizes Versar's estimates of the probable costs and impacts of complying with the proposed "PCB Ban Regulations." These regulations were prepared by the EPA Office of Toxic Substances and the Interagency PCB Work Group to implement the requirements of Sections 6(e)(2) and 6(e)(3) of the Toxic Substances Control Act (Appendix A).

This economic analysis program was sponsored by the EPA, but the results reported are those of Versar Inc. This report was prepared in partial fulfillment of the requirements of Contract No. 68-01-4771. The report is not a statement of EPA policy. However, this study does meet the requirements of an economic impact analysis of the proposed regulation.

This report was prepared under the supervision of Mr. Robert Westin, Principal Investigator. Major contributors were:

Louis Fourt, Ph.D. (economic methodology, waste oil, railroads)

Robert Westin, P.E. (transformers, dry pigments)

David Berkey (capacitors, mining
machines)

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Special acknowledgements must be given for the close support received from Mr. Steven B. Markenson, EPA Project Officer, and Mr. Joseph F. Latkey, EPA Regulations Development Group of the Office of Toxic Substances. The factual strengths of this report are due to the close cooperation received from industry, particularly representatives of the transformer and capacitor manufacturers and the electric utilities.

This report is being released and circulated prior to the public hearing on the proposed regulation. It will be considered along with the information received during the hearing in establishing the final regulations. Prior to final promulgation of the regulations, this study shall have standing in any EPA proceeding or court proceeding only to the extent that it represents the views of Versar Inc. It cannot be cited, referenced, or represented in any respect in any such proceeding as a statement of EPA's views regarding the impact of the proposed regulations.

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APPENDIX A - TOXIC SUBSTANCES CONTROL ACT

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